SCH4U	**Lesson Plan: Naming and Structure of Esters, Amines and Amides**	**Unit: Organic Chemistry**
	Learning Goals: To describe and understand the similarities and differences between IUPAC naming, structure and physical properties of esters, amines and amides. **Overall and Specific Ministry Expectations:** **B2. Investigate organic compounds and organic chemical reactions, and use various methods to represent the compounds;** **B2.1** use appropriate terminology related to organic chemistry, including, but not limited to: *organic compound, functional group* [C] **B2.2** use International Union of Pure and Applied Chemistry (IUPAC) nomenclature conventions to identify names, write chemical formulae, and create structural formulae for the different classes of organic compounds, including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, amines, amides and simple aromatic compounds [AI, C] **B3. Demonstrate an understanding of the structure, properties, and chemical behaviour of compounds within each class of organic compounds.** **B3.1** compare the different classes of organic compounds, including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, amines, and amides, by describing the similarities and differences in names and structural formulae **B3.2** describe the similarities and differences in physical properties (e.g., solubility in different solvents, odour, melting point, boiling point) within each class of organic compounds	**Materials:** - **Appendix A:** Teacher Notes/Tips for Success - **Appendix B:** Cards (2 Sets: Type of Organic Compound and #Carbons) - Strips of paper - **Appendix C**: Student Handout **Materials and Assessment:**
Action! 10 mins 15 mins 20-25 mins	**Esters, Amines and Amides Think-Pair-Share and Jigsaw Activity:** a) Each student will be randomly assigned TWO different types of cards: a. **'Organic Compound' Card** (Esters, Amines, Amides) b. **'Number of Carbons on Structure' Card** (1-3; 4-6 or 7-10) b) **Individually:** Each student is given a sheet of paper where they: **On the FRONT of the paper:** will **draw** an organic structure with the requirements outlined on their two cards **On the BACK of the paper:** will give the **IUPAC name** of structure. c) **Groups of 2-3:** Students will get into small groups with students with the ***same type of organic compound (e.g. esters group)*** and: a. Compare one another's naming and structure (from Part B) to ensure that structures and IUPAC names are correct. b. Students can make corrections on new sheet of paper, as needed. d) **Jigsaw Group of 3:** Student will work with two others who have different organic compound classes (e.g. ester, amine, amide in each group): Group members will complete the student handout together which compares their different structures, names and physical properties.	-**Appendix A:** Teacher Notes/Tips for Success - **Appendix B:** Cards - **Strips of paper**. **AfL** – Teacher will circulate classroom as students draw and name their structures **AaL** –Students will be peer and self-assessed of their understanding. **AfL** – Teacher will go to groups to ensure they are all on task. **Appendix C:** Handout **AaL** –Students will be peer and self-assessed based on answers. **AfL** – Teacher will circulate to ensure groups are on task; collect handouts when completed to assess understanding by end of class